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SOURCE Karmannye Radiopriyemniki, No 140, Massovaya Radio Biblioteka, Moscow, 1952.

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SOVIET VEST-POCKET RADIO RECEIVERS

A. M. Rakhteyenko

The following information was taken from Karmannye Radiopriyemniki, No 140, Mass Radio Library series, published by Gosenergoizdat, 1952. Descriptions of three home-made miniature receivers operating in the long- and medium-wave bands are given. Two of these were built by the author and shown at the Ninth All-Union Radio Exhibition.

The first receiver is a tuned rf set employing two IKIP tubes, the first as an rf amplifier and the second as a grid detector with fixed feedback. The construction provides for fixed tuning to two central broadcasting stations, but the receiver can be set up to receive other stations by changing capacitors. A type GB-SA-45 hearing-aid battery or a set of six to eight type KBS-L-0.35 flashlight cells can be used for the B+ supply. The A battery consists of one type-ND-SA or type-IKS-Kh-3 ("Saturn") cell. The receiver itself weighs 90 g and the power supply alone, 400 g. Reception is by headset.

The second receiver [called a "karmannaya radiotochka"] is a one-tube 1-V-1 receiver. The single tube is a 1B1F diode-pentode which operates as an rf amplifier, diode detector, and af amplifier. The receiver is fixed-tuned to one broadcasting station [Coil C. given] lies to the first program of central broadcasting, operating on 173 kc/. The receiver also weighs about 90 g. The B battery is again a type-GB-SA-45 hearing-aid battery, which has sufficient capacity to provide 100 hours of operation for this receiver. The A battery is a type NS-SA or IKS-KH-3 dry cell.

The third receiver, using two SB-242 tubes with a low plate voltage (4.5 v), is a slight variation of a 1-V-0 receiver design described in Radio, No 3, 1951. The filaments of the two tubes are connected in series and supplied from two series-connected type IKS-Kh-3 cells through a 6-ohm rheostat. The B+ is supplied by a type KBS-L-0.35 flashlight battery.

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The author completes the book with a section in which he gives advice to the designer of miniature radio receivers. In this section, it is suggested that amateurs design a vest-pocket portable superheterodyne for loudspeaker reception with miniature tubes or a miniature receiver using hearing-aid tube types 06P2B (filament, 0.63 v, 0.03 a; plate, 45 v) or 1P2B (filament, 1.25 v, 0.05a; plate, 45 v). Design of miniature "radio-flashlights" and portable ultrashort-wave transceivers is also recommended to amateurs. The use of type K50 and KTK capacitors and type VS-0.25 resistors in miniature receivers is advised. Brief information is given on the type of tools needed to build miniature receivers. Technical characteristics (e.g., initial emf, amp-hr capacity, shelf life, weight, etc.) are given on the inside back cover for seven types of dry cells and batteries recommended for vest-pocket radio receivers. 7

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